

WHAT IS CLAIMED IS:

1. A printing method using a printhead containing a plurality of print units, each being capable of printing a pixel line when the printhead is scanned over a recording medium, wherein the printing method is controlled to compensate for a failure of a print unit, which comprises
  - storing a plurality of failure compensation strategies,
  - dividing an image to be printed into segments containing different types of image information, and
  - selecting different ones of the stored compensation strategies for printing different segments of the image.
2. The method according to claim 1, wherein the segments extend over the whole width of the image to be printed.
3. The method according to claim 2, wherein the dimension of the segments in a direction normal to the scanning direction (B) of the printhead is adapted to the length of an array of print units of the printhead.
4. The method according to claim 1 comprising the steps of sorting the stored compensation strategies in a sequence of increasing image quality and decreasing productivity, assigning to each segment a criterion ( $T_{ij}$ ) specifying a minimum requirement for image quality, and selecting, for

a segment to be printed, the first strategy in the sequence that fulfills the criterion assigned to that segment.

5. The method according to claim 4 comprising a step of filtering the pattern of segments with a low-pass spatial frequency filter for reducing the number of switching operations from one compensation strategy to another.

6. The method according to claim 1 comprising a step of automatically detecting the failure of the print unit and automatically activating or adapting a failure compensation strategy in accordance with the detected failure.

7. The method according to claim 1 comprising the steps of searching the image to be printed for nozzle failure sensitive items, and proactively applying a compensation strategy in accordance with the search result.

8. The method according to claim 1, wherein the failure compensation strategies comprise at least one strategy that is applicable in a single-pass mode of the printhead and at least one strategy that is applicable in a multi-pass mode of the printhead.

9. The method according to claim 1, wherein the step of dividing the image into segments includes a step of extracting a primary image classifier ( $B_j$ ) from each area of the image, said primary image classifier being a measure for the brightness of that area, and determining the segments on the basis of the values of the primary image classifiers ( $B_j$ ) of the image areas contained therein.

10. The method according to claim 9, which comprises context filtering the primary classifiers ( $B_j$ ) of the image areas and determining the segments on the basis of the filtered classifiers.

11. The method according to claim 10, wherein the image is divided into basic areas comprising a plurality of pixels, the primary classifier ( $B_j$ ) is measured for each basic area, and context filtering is applied to blocks consisting of a plurality of basic areas.

12. The method according to claim 9, wherein at least one threshold value ( $T_{ij}$ ) is defined for each failure compensation strategy (i), and the failure compensation strategy for a segment is selected by comparing the smallest primary image classifier ( $B_j$ ) that has been found for the segment, to said threshold values ( $T_{ij}$ ).

13. The method according to claim 11, wherein primary image classifiers ( $B_j$ ) are measured for basic areas of different sizes, and the primary classifiers obtained for each basic area size are compared to respective threshold values ( $T_{ij}$ ).

14. A printer comprising a transport system for a recording medium, a printhead containing a plurality of print units each of which being capable of printing a pixel line when the printhead is scanned over the recording medium, and a failure compensation unit for controlling the print operation such that a failure of a print unit is compensated, wherein a segmentation unit is provided for dividing an image to be printed into segments containing different types of image information, and wherein the failure compensation unit comprises a memory for storing a plurality of compensation strategies and a controller for selecting one of said compensation strategies in accordance with the segment to be printed.